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TREATED BY

THE CHLORIDE OF GOLD AND SODIUM.

From the American Journal of Obstetrics, February, 1885.

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Pertussis Treated by the Chloride of Gold and Sodium.

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I desire to present the report of a case of "Pertussis," treated by auri et sodii chloridum. I regret exceedingly that my experience has been confined to a single case. But the fact that this experience was extraordinary, is my excuse for calling your attention to it. Moreover, I have been impelled by the hope that by so doing the value of the remedial agent would be sooner determined, as it might then be put to a greater number of tests. The fearful mortality attendant upon this disease and its complications, and the apparent inutility of all methods of treatment, make us eager to grasp anything that holds out the least promise of arresting, or even mitigating, the distressingly painful manifestations of its hold upon the suffering patient. Our interest is again increased from the fact that, as a rule, the sufferers are our helpless little ones. During a period of fifteen years in London, the mortality from pertussis was only exceeded by that from typhus fever and scarlatina.

We are all aware that the disease is characterized by three distinct stages. The middle, or convulsive stage, commences about three or four weeks after the initiatory symptoms have been developed, and it lasts three or four more weeks. I mention these points because we shall see that my case was in this stage. Many drugs have been recommended for the treatment of the various manifestations of the disease. In addition to the administration of drugs by the mouth, many other methods of treatment have been extolled. Some have enjoyed a popularity for a time, after



having given a promise of success, but unfortunately they have been relegated to obscurity again. Ellis, in "Diseases of Children," says: "Probably there is no disease for which so many specifics have been vaunted with such unsatisfactory results." Henoch says: "The enormous number of remedies employed in this disease proves its incurability." I shall not attempt to cite those that crowd the pages of our text-books and journals, but shall hope that the best methods will be brought out in the discussion. Notwithstanding the fact that all text-books give copious instructions for treatment, they give but little encouragement either as to abbreviation or mitigation of the disease.

Here it will be proper for me to present my case:

G. F., male; aged three years; manifested symptoms of a cough about the second or third week of July, 1884. At first he was treated with the simple expectorants. These proved useless. In spite of them there was an aggravation of the trouble, and soon well-marked indications of pertussis appeared. Nausea and vomiting accompanied the paroxysms, which rapidly increased in frequency. In fact, they increased to such an extent that there was but little sleep secured by either the child or his mother. No nourishment was retained, and as a result thereof the child was rapidly becoming much emaciated. Bromides, chloral, and large doses of oxalate of cerium were freely given. I cannot say I noticed the least improvement from any of them. The mother was up repeatedly at night with him. This annoyance was now of nightly occurrence, and was equally as great on the night of Sunday, August 10th. Thinking that a change of air might be serviceable, arrangements were made to start for Connecticut on Tuesday, the 12th. Both parents dreaded the journey very much. They feared they would have serious trouble with both the paroxysms of coughing and the attacks of vomiting. A few days before this I read in the *Medical News* of August 2d, an article by Roberts Barthclow, "on the chloride of gold and sodium in some nervous affections," which he had read before the "American Neurological Association."

In this article he says: "In certain affections characterized by spasm, as asthma, laryngismus stridulus, and singultus, this remedy acts surprisingly well sometimes. A physician with a large experience in a malady which I do not see at all now-a-days—pseudo-

croup, or laryngismus—informs me that he employs no other remedy, and his patients get speedy relief. There are various cognate affections, in which, no doubt, it will be found in a high degree useful." The thought struck me that it would be well to try this drug in my case. I determined to put the child immediately upon it. Accordingly, on the morning of the 10th, I ordered the following : R Auri et sodii chlorid., gr. ij.; Aq. destil., $\frac{3}{2}$ i., with directions to give five drops every two hours, commencing as soon as possible. The first dose was given about two P. M. I requested the parents to furnish me with a memorandum of the condition of the child up to this time, the manner of the administration of the remedy, and the condition after the remedy had been given. I will read it from their original manuscript.

" Up to Monday, Aug. 11th, baby had coughed spasmodically whenever excited by crying or laughing, and frequently in the night, bringing on vomiting. At that time he had had the whooping cough about four weeks, and Mrs. F. was getting up with him eight or ten times a night. He had vomited his food so continuously as to be much run down and growing thinner every day. We decided to take him to the salt water, and started early (7.15 A. M.) Tuesday morning. Previous to leaving, however, on Monday, we had the chloride of gold and sodium prescription filled and gave it, beginning at 2 P. M., every two hours until 9 P. M. That night he vomited none at all, and Mrs. F. did not once get up with him. In the morning we began the medicine again, giving it every two hours, and although we had made every preparation for his vomiting on the cars he only once had a fit of coughing and then threw up a small quantity of phlegm, nothing else. When we got to Grove Beach that night, the place was new, and he cried violently; we seemed unable to quiet him, yet he had no vomiting spell. We continued the medicine right along, and remember of but one vomiting spell, and that only a slight one. After a week or so we discontinued the medicine once or twice, and each time noticed that the coughing returned, when we resumed the medicine. We stayed at Grove Beach, Conn., two and one-half weeks, and his general health improved. He got as 'brown as a berry' playing in the sand by the salt water. Before leaving there we discontinued the medicine *altogether*. He coughed slightly occasionally after that, generally when excited,

and the whooping cough from that time seemed to gradually disappear. He vomited copiously about ten days after leaving Grove Beach while at Bar Harbor, but it was in the midst of a nap and manifestly caused by some sudden derangement of the stomach, such as I myself and others had at the time. The doctor there said the cause was atmospheric."

You see from the foregoing remarkable result my reason for occupying the attention of the Society with this subject this evening.

Fortunately for the value of this paper, I have had three more cases of pertussis since it was written. On Wednesday evening last, I was called to see a family in which there were three children in the second stage of the disease. Although the paroxysms of coughing were very severe, vomiting did not always supervene.

They took one dose of the medicine about five o'clock and started to take a train from the city about seven, in the midst of a blustering wind storm. Failing to make connections they returned. The children rested well, and were but little disturbed. Yesterday they were in and out of the house nearly all day, notwithstanding the cold wind. I saw them at 4.30 P. M. They had taken three doses of medicine during the day. The two older children spoke up immediately after I asked about their condition, and volunteered the information that they felt very much better, that they had coughed much less frequently, and that the paroxysms were both much less severe and prolonged. The mother and nurse reported that the youngest child was also better. The attacks were less frequent and much shorter.

Beyond what I have quoted from the paper of Dr. Bartholow, there is no mention of the use of the chloride of gold and sodium in affections of the respiratory organs in any work that I have been able to find. Wood, in his last editions, does not even mention gold or its preparations. Nor does Stillé in his exhaustive treatise on *Materia Medica and Therapeutics*. In the valuable work, the results of the labor of himself and Prof. Maisch, the same silence is observed. In the last edition of the "United States Dispensatory," *auri et sodii chloridum* is introduced. Under the head "Medical properties," we find "the precise action of this salt upon the system is not known, but there is *réason* for believing that it exerts some influence upon the general nutrition, and is therefore

alterative." The uses as given therein are for hysteria, ovarian irritation, and neuralgia, chronic ovaritis and chronic uterine inflammation. It also mentions the use of it in syphilis.

Trousseau and Pidoux place gold under the head of alteratives, and mention its use in syphilis, scrofula, some cutaneous diseases, affections of the alimentary tract, amenorrhea, and in affections of the uterus. They have freely used the results of the investigations of Chrestien of Montpelier. In Philip's *Mat. Med.* "Wood's Library," 1882, there is more attention given to gold and its preparations. Absorption takes place after the administration of the soluble chlorides, elimination occurring through the liver, intestinal canal, and kidneys. Rabuteau is cited as maintaining that the elimination is never complete, that the metal is reduced and deposited, especially in the epithelium and nerve tissues. As a proof of this, he states that "in a rat that had taken a little over a grain of gold a day for 14 days, he found the contour of the intestinal epithelium well outlined and a greenish tinge about the axis-cylinder of the nerve tubules." In this work the remedial uses mentioned are about the same as before quoted. In Bartholow's "Mat. Med. and Therapeutics," 1884, the fullest account of the therapeutical uses of this drug is to be found. From this work and the article in *The Med. News*, of August 2d, 1884, p. 118, we deduce that the preparations of gold are alterative, that they give tone and stability to nervous matter, and have antispasmodic properties. The information as to these properties has been obtained more from clinical observation than from physiological investigation. From the investigations of Rabuteau finding the metal in the nerve tissues, and the clinical observations of capable practitioners, I think that we will be justified in expecting continued good results from the use of *auri et sodii chloridum* in pertussis. I trust that the excellent results that I have already experienced will be repeated in the practice of other members of the profession. And I sincerely hope that the good fortune that attended my cases has not been entirely accidental, and hence liable to continuation.





